

PI Dependencies

Photolayer-PI-Dependencies

Plugins must not depend on external packages like Linux .deb or MacOS homebrew packages to work (since end users don't have them installed). This means that a plugin which depends on an external library not available by just installing OpenCPN must handle this in various other ways like:

1. Rebuild from source. This is the only option in the flatpak case. OTOH, the flatpak runtime is quite large and contains a lot of common libraries.
2. Link statically. Preliminary findings are that this works on MacOS but not in Debian; Debian static libs seems to be compiled without -fPIC which means they cannot be linked into a shared library. YMMV.
3. Bundle the dynamic library. By default, linux has an RPATH which points to both the plugin directory and its parent. This means that a library .so file bundled in any of these locations will be used by the plugin.

The photolayer_pi plugin contains examples on all these strategies. The proj and libgeotiff libs are rebuilt from sources. The libtiff library is bundled on Debian and linked statically on MacOS. The “rebuild from source” is done in libs/geotiff and the flatpak yaml manifest.

To check the dependencies of a plugin there are the otool -L (MacOS) and ldd (Linux) tools which list the runtime dependencies of a plugin. By default, these are run on all photolayer macos and debian builds. The MacOS output is relatively easy to read while the ldd output probably is too messy for regular checks. It might be useful when debugging, though.

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